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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/977,552 | 10/15/2001 | Hank E. Millet | 031500487DVA | 4193 |

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EXAMINER

SAYOC, EMMANUEL

ART UNIT

PAPER NUMBER

3746

DATE MAILED: 01/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/977,552

Applicant(s)

MILLET ET AL.

Examiner

Emmanuel Sayoc

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. Applicant is instructed to include the most pertinent concepts or components of the claimed invention within the title.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 17-23, and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Centers et al. (U.S. 6, 471, 486 B1).

With respect to claim 17, 18, and 21 in Figure 2A, Centers et al. discloses a compressor system and control system comprising a compressor(s) (1002) and an electronic control system(s) (1004), which is analogous to the claimed invention's control block. The electronic control system (1004) is in communication with the compressor (1002). Multiple compressors (1002) ^{can} and be controlled at the same time, in which case multiple electronic control systems (1004) are linked via network in a peer to peer configuration – see abstract. A remote computer

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used for monitoring, controlling, downloading firmware software, and communicating compressor operation data is analogous to the claimed invention's system master. The remote computer is in communication with the electronic control systems (1004) and are operative to receive stored compressor configuration information from the electronic control system (1004) – see column 25 line 42 to column 26 line 27. Random access memory chips (510) are used for storage of operating data, i.e. compressor configuration information, history data, and parameter calculation results – see column 19 lines 33-37. All operating parameters, service information, shut down records, sensor input information (including temperature and pressure data), are transmitted from the electronic control system (1004) to the system master computer. All of the stored operating parameters of the electronic control system (1004) can be modified by the system master computer – see column 15 lines 5-17.

With respect to claim 19 and 20, the control system uses pressure and temperature sensors, among others, to detect or predict actual shutdown conditions based on the operating state of the compressor (1002). These signals are transmitted to the system master, and are indicative of an operating characteristic of the compressor – see column 9 lines 21-26.

With respect to claim 23, the stored compressor configuration information includes many compressor specific values such as model number/type – see column 27 line 37.

With respect to claim 25, the operating data, or configuration information includes at least one pressure limit, and at least one temperature limit. These limits are used as thresholds that predict abnormal compressor operation – see column 9 lines 10-15 (temperature), and column 9 lines 35-40 (pressure). The information also includes at least one time limit – column 17 line 33-38.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Centers et al. as applied to claim 17 and in further analysis under the arguments stated below.

Centers et al. sets forth a device as described above, which is substantially analogous to the claimed invention. The Centers et al. device differs from the claimed invention in that there is no disclosure of the electronic control system (1004) containing compressor configuration information including a serial number of the compressor, a refrigerant code for the compressor, and an oil code for the compressor. Compressor information such as the model and serial numbers identify the specific parameters (usually provided by the manufacturer), such as intake pressure, discharge pressure, capacity, voltage/current inputs, or operating temperatures. This specific data is critical for control system to maintain optimal operation of the compressor. In the same manner the working fluids, whether it be compressed air, gas, refrigerant, or oil need to be specified such that their thermodynamic properties can be specified for the control system. As seen above, Centers et al. anticipated the need for specific compressor parameter information. The properties of the compressor and its working fluid have been specified within the control system either directly, or indirectly through other parameters. One of ordinary skill in the art at the time the invention was made would have recognized that pertinent information such as the

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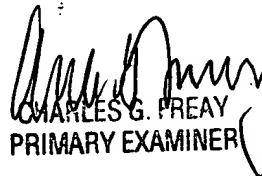
compressor serial number, refrigerant code, and oil code, could have been stored into control system (1004), for proper identification of the working compressor, its operating parameters, and the thermodynamic properties of its working fluids.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are cited to further show the state of the art with respect to compressor control and protection systems.

U.S. Pat. 5, 713, 724 to Centers et al.

U.S. Pat. 4, 502, 842 to Currier et al.


CHARLES G. PREAY
PRIMARY EXAMINER

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Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Sayoc whose telephone number is (703) 305-0054.

The examiner can normally be reached on M-F 8 A.M. - 6 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe can be reached on (703) 308-0102. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.


Emmanuel Sayoc
Patent Examiner
Art Unit 3746

ECS
January 9, 2003